

Amendments to the Claims:

1. (currently amended) A bias circuit used in a switch-mode power converters having a an input and a an output side, the bias circuit providing initial bias power ~~and enable signal for to enable~~ a control circuit located on the output side of the switch-mode power converter, the bias circuit comprising:

an isolated coreless transformer, the transformer having windings, the windings formed in or on layers of a printed circuit board (PCB);

a driver coupled to the transformer ~~to drive said coreless transformer,~~ wherein the driver, when enabled by an enable signal, drives the coreless transformer with high frequency pulses of short duration;

a rectifier coupled to the output of the transformer to provide ~~positive~~ pulses ~~at the output of said coreless transformer;~~

a capacitor coupled to the rectifier ~~for smoothing~~ to smooth the rectified positive pulses into a voltage, ; and apparatus to enable and providing the power to the said control circuit located on the output side of ~~said switch-mode power~~ of the converter during startup.

2. (currently amended) The bias circuit recited in claim 1, wherein said driver comprises:

~~— a circuit that when enabled generates pulses of predetermined duration followed by a relatively long inactive period;~~

an oscillator that generates high frequency pulses of short duration in response to said bias circuit generated pulses; and a wherein the driver, when enabled, to drive drives said coreless transformer in response to the output of said oscillator.

3. (original) The bias circuit recited in claim 1, and further comprising an ON/OFF feature, wherein said ON/OFF feature comprises apparatus to disable said coreless transformer and thus the control circuit located on the output side in response to a signal initiated on the input side.
4. (original) The bias circuit recited in claim 1, and further comprising apparatus to disable said coreless transformer and thus said control circuit in response to a signal initiated on the output side.
5. (original) The bias circuit recited in claim 1, wherein the enable signal is a single pulse of predetermined duration.
6. (original) The bias circuit recited in claim 1, wherein the enable signal is a train of pulses of predetermined duration and predetermined period.
7. (original) The bias circuit recited in claim 6, wherein the predetermined duration of each said pulse in the enable signal is short compared with the period of the pulses.

8. (original) The bias circuit recited in claim 1, wherein the enable signal is a single pulse, the duration of which is determined by the time from the commencement of the enable signal until said converter commences operating.

9. (original) The bias circuit recited in claim 8, wherein the enable signal has a predetermined inactive period following the duration of the single pulse.

10. (original) The bias circuit recited in claim 2, wherein said oscillator operates continuously at a reduced frequency after a predetermined time.

11. (original) The bias circuit recited in claim 2, wherein said oscillator operates continuously at a reduced frequency after said converter commences operating.

12. (currently amended) The bias circuit recited in claim 1, wherein the voltage ~~from said driver drives said coreless transformer~~ is reduced after a predetermined time.

13. (currently amended) The bias circuit recited in claim 1, wherein the voltage ~~from said driver drives said coreless transformer~~ is reduced after said converter commences operating.

14. (original) The bias circuit recited in claim 1, and further comprising a sensor on the output of said coreless transformer, said sensor disabling said control circuit pursuant to sensing that said coreless transformer has no output.

15. (currently amended) The bias circuit recited in claim 1, and further comprising a sensing and control circuit coupled to the input side of said bias circuit to detect when said converter is not operating, said sensing and control circuit commencing ~~an inactive period for operation of said converter~~ a short active period where the control circuit located on the output side is enabled followed by a relatively long inactive period.

16. (currently amended) A bias circuit used in switch-mode power converters having a an input and a an output side, the bias circuit providing initial bias power ~~and enable signal for to enable~~ a control circuit located on the output side of the switch-mode power converter, the bias circuit comprising:

an isolated coreless transformer, the transformer having windings, the windings formed on layers of a printed circuit board (PCB), wherein the driver, when enabled by an enable signal, drives the coreless transformer with high frequency pulses of short duration;

driving means ~~to drive~~ for driving said coreless transformer;

rectifier means ~~to provide for providing~~ positive pulses at the output of said coreless transformer;

capacitor means for smoothing the rectified ~~positive pulses, ; and means to enable~~ the smoothed rectified pulses generating a voltage for powering said

control circuit located on the output side of said switch-mode power converter at startup.

17. (currently amended) The bias circuit recited in claim 16, wherein said driving means comprises:

~~a circuit that when enabled generates pulses of predetermined duration followed by a relatively long inactive period;~~

oscillator means that generates high frequency pulses of short duration, ~~in response to said circuit generated pulses ; and a driver to drive the driving means for driving said coreless transformer in response to the output of said oscillator.~~

18. (original) The bias circuit recited in claim 16, and further comprising an ON/OFF feature, wherein said ON/OFF feature comprises apparatus to disable said coreless transformer and thus the control circuit located on the output side in response to a signal initiated on the input side.

19. (original) The bias circuit recited in claim 16, and further comprising apparatus to disable said coreless transformer and thus said control circuit in response to a signal initiated on the output side.

20. (original) The bias circuit recited in claim 16, wherein the enable signal is a single pulse of predetermined duration.

21. (original) The bias circuit recited in claim 16, wherein the enable signal is a train of pulses of predetermined duration and predetermined period.

22. (original) The bias circuit recited in claim 21, wherein the predetermined duration of each said pulse in the enable signal is short compared with the period of the pulses.

23. (original) The bias circuit recited in claim 16, wherein the enable signal is a single pulse, the duration of which is determined by the time from the commencement of the enable signal until said converter commences operating.

24. (original) The bias circuit recited in claim 23, wherein the enable signal has a predetermined inactive period following the duration of the single pulse.

25. (original) The bias circuit recited in claim 17, wherein said oscillator operates continuously at a reduced frequency after a predetermined time.

26. (original) The bias circuit recited in claim 17, wherein said oscillator operates continuously at a reduced frequency after said converter commences operating.

27. (currently amended) The bias circuit recited in claim 16, wherein the voltage ~~from said driver drives said coreless transformer~~ is reduced after a predetermined time.

28. (currently amended) The bias circuit recited in claim 16, wherein the voltage ~~from said driver drives said coreless transformer~~ is reduced after said converter commences operating.

29. (currently amended) A method ~~employing a coreless transformer for~~ providing to provide an initial bias and an enable signal for a control circuit (controller) on the output side of a power converter having an input side, by use of a coreless transformer, the method comprising:

providing the coreless transformer fabricated in or on the layers of a printed circuit board;

providing the controller, the controller controlled from output side of the converter;

providing a controller transformer to transmit control power to the power the input (primary) side of the power converter;

driving the coreless transformer using high frequency pulses of short duration; and

powering ~~enabling the secondary control circuit controller~~ using said the coreless transformer.

~~providing initial bias to the power converter using said control circuit referenced to the output of the converter and associated circuitry to properly bias the power converter from the primary side.~~

30. (new) A bias circuit used in a switch-mode power converter having an input and an output side, the bias circuit providing an initial bias and an enable signal for a control circuit (controller) located on the output side of the switch-mode power converter, the bias circuit comprising:

an isolated coreless transformer;

a driver coupled to the transformer to drive said coreless transformer, the driver comprising an oscillator that generates high frequency pulses, the driver to drive the coreless transformer in response to the output of the oscillator, to generate pulses of predetermined duration followed by a relatively long inactive period;

a rectifier coupled to the rectifier to provide positive pulses at the output of said coreless transformer;

a capacitor coupled to the rectifier to smooth the rectified positive pulses into the enable signal, and providing the smoothed rectified pulses as the enable signal to generate a voltage to enable the controller located on the output side of said switch-mode power converter.

31. (new) A bias circuit used in switch-mode power converters having an input and an output side, the bias circuit providing an initial bias and an enable signal for a control circuit (controller) located on the output side of the switch-mode power converter, the bias circuit comprising:

an isolated coreless transformer;

driving means for generating high frequency pulses of predetermined duration followed by a relatively long inactive period for driving the coreless transformer, the driving means comprising an oscillator means for generating the pulses;

rectifier means for providing positive pulses at the output of said coreless transformer;

capacitor means for smoothing the rectified positive pulses, the smoothed rectified pulses for enabling the controller located on the output side of said switch-mode power converter.